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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/483,542	01/14/2000	G. Douglas Antuma	SLU02P-303	8523

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EXAMINER

FERRIS III, FRED O

ART UNIT PAPER NUMBER

2128

DATE MAILED: 06/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/483,542

Applicant(s)

ANTUMA, G. DOUGLAS

Examiner

Fred Ferris

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. *A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5 March 2004 has been entered. Claims 1-26 are currently pending in this application.*

Response to Arguments

2. *Applicant's arguments filed 5 March 2004 (paper #7) have been fully considered.*
Regarding applicant's response to 112(1) rejection: The examiner withdraws the 112(1) enablement rejection in view of applicant's declaration (paper #9) filed 5 March 2004. However, the examiner has now applied a new 112(1) written description rejection. (please see new 112(1) below)

The examiner also appreciates applicant's reference to Northern Telecom Inc. v. Datapoint Corp. However, the examiner has not asserted that applicants should provide any computer code in order to provide enablement for the claimed limitations. The examiner has only asserted that the written description of the claimed invention is inadequate to allow one skilled in the art to realize the claimed invention from the specification. (see 112(1) below) The examiner notes, however, that such listings would assist the examiner in determining any novel aspects of the claimed invention. The examiner also notes that all of the elements of the claimed inventions limitations appear

to simply make use of build-in commands and inherent features of AutoCAD program. Applicants are therefore invited to explain how the claimed limitations are novel over the existing AutoCAD commands, and how the claimed invention provides (realizes) any features that are not derivable by simply using existing AutoCAD commands or inherent features. (please see new 102 and 103 rejections below)

Regarding applicant's response to 102(b) rejections in view of Oota, and Hensen and 102(a) rejection in view of Marir: In order to simplify the issues in the case, the examiner withdraws the previous 102(b) and 102(a) rejections in view of Oota, Hensen, and Marir and has now applied new 102(b) rejections in view of "AutoCAD and its Applications Advanced", T. Shumaker, The Goodheart-Wilcox Company, ISBN 1-56637-414-6, 1998, and "AutoCAD Users Guide", Autodesk Inc, Release 14, December 1997. (please see new 102(b) rejections below) While the examiner does not agree with applicant's arguments relating to previous rejections, the arguments are now moot based on these new grounds for rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. *Claims 1-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to*

one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Specifically, independent claims 1, 10, and 16 each recite limitations relating to a method, system, and computer code for volume detailing that includes the steps of; providing a three dimensional volume, positioning a three dimensional component, and sectioning the three dimensional volume, but the specification does not provide a technique, algorithm, or sufficient written description of how any of these steps are accomplished. The crude block diagrams shown in Figures 4a and 4b do not cure this deficiency. The specification does not provide a written description disclosing specifically how a three dimensional volume is provided, how a three dimensional component is positioned, or how the three dimensional volume is sectioned, sufficient to allow one skilled in the art to realize the invention. While the disclosure has stated on page 5 that "the present invention uses a plurality of LISP modules that customize an AutoCAD 2000" no algorithms or techniques are disclosed that specifically show how a three dimensional volume is provided, how a three dimensional component is positioned, or how the three dimensional volume is sectioned by these LISP modules. Applicants' are reminded that they have claimed the method, computer code, and system for these limitations. Dependent claims inherit this defect.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-26 are rejected under 35 U.S.C. 102(b) as being anticipated by
“AutoCAD and its Applications Advanced”, T. Shumaker, The Goodheart-Wilcox
Company, ISBN 1-56637-414-6, 1998.

Independent claims 1, 10, and 19 are drawn to:

Method of building structure volume detailing with positioning of components by:

- **Providing 3D representations of building structure volume model***
- **Positioning representation of 3D component at desired location in structure***
- **Sectioning 3D building structure volume to provide 2D profile including component profile if 3D component extends thru point of interest.***

Per independent claims 1, 10, and 19: Shumaker teaches the use of the

AutoCAD program to realize the elements of the claimed limitations as follows:

- Providing 3D representations of building structure volume model: Shumaker discloses the use of AutoCAD in creating a volume model of a 3D structure (such as a building) made up of multiple components (objects). (pages 145-155, 163-177, 259, Figs. 7-7 to 7-15)*
- Positioning representation of 3D component at desired location in structure: Shumaker discloses positioning components (objects) at desired locations. (pages 145-155)*
- Sectioning 3D building structure volume to provide 2D profile: Shumaker discloses the use of the AutoCAD “SECTION” command that provides a 2D*

profile of an object model from a 3D representation, (pages 248-259, Figs. 12-6, 12-14, 12-15)

- *Component profile if 3D component extends thru point of interest*: Shumaker discloses the use of AutoCAD in creating a 3D component that extends past a 2D point of interest using the "EXTRUDE" command. (pages 225-237, Figs. 11-1 to 11-21)

Per dependent claims 2-9, 11-18, and 20-26: This group of claims includes features relating to **interference checking**, **predetermined shapes**, **surfaces** (outer, top, etc.), and component **volume computation** which are disclosed by Shumaker as cited above. (See pages 145-155, 163-177, 225-237, and 248-259). The creation and manipulation of 3D/2D representations of objects such as **structural bodies** (trusses, catwalks, etc.), **air conditioning ducts**, etc. is merely the intended commercial use of the AutoCAD program and is hence inherent.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over "AutoCAD Users Guide", Autodesk Inc, Release 14, December 1997.

Independent claims 1, 10, and 19 are drawn to:

Method of building structure volume detailing with positioning of components by:

- ***Providing 3D representations of building structure volume model***
- ***Positioning representation of 3D component at desired location in structure***
- ***Sectioning 3D building structure volume to provide 2D profile including component profile if 3D component extends thru point of interest.***

Per independent claims 1, 10, and 19: AutoCAD User Guide discloses the elements of the claimed limitations as follows:

- ***Providing 3D representations of building structure volume model:*** AutoCAD User Guide discloses the use of AutoCAD in creating a volume model of a 3D structure (such as a building) made up of multiple components (objects). (pages 532-550)
- ***Positioning representation of 3D component at desired location in structure:*** AutoCAD User Guide discloses positioning components (objects) at desired locations. (pages 553-558)

- **Sectioning 3D building structure volume to provide 2D profile:** AutoCAD User Guide discloses the use of the AutoCAD "SECTION" command that provides a 2D profile of an object model from a 3D representation, (pages 561, 542)
- **Component profile if 3D component extends thru point of interest:** AutoCAD User Guide discloses the use of AutoCAD in creating a 3D component that extends past a 2D point of interest using the "EXTRUDE" command. (pages 542, 551, 552-562)

It would have been obvious to one having ordinary skill in the art at the time the claimed invention was made, to use the teachings of the AutoCAD User Guide relating to crating 3D/2D volume object models of multiple components with AutoCAD commands, to program the AutoCAD software to create the Volume Detailed Building Structure of the claimed invention. An obvious motivation exists since the intended commercial use of the AutoCAD program is for creating 3D object models of structures such as buildings and related components.

Per dependent claims 2-9, 11-18, and 20-26: This group of claims includes features relating to **interference checking, predetermined shapes, surfaces** (outer, top, etc.), and component **volume computation** which are disclosed by the AutoCAD User Guide as cited above. (See pages 532-562, especially 542, 551, and 525-532). The creation and manipulation of 3D/2D representations of objects such as **structural bodies** (trusses, catwalks, etc.), **air conditioning ducts**, etc. is merely the intended commercial use of the AutoCAD program and is hence inherent.

While the specification for the claimed invention is delinquent in areas previously cited under 112(2) rejections, the examiner has made the following prior art rejections based on the limited scope of information provided by the disclosure.

Conclusion

6. *The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, careful consideration should be given prior to applicant's response to this Office Action.*

U.S. Patent 5,557,537 issued to Norman et al teaches CAD design of three-dimensional building distribution systems.

U.S. Patent 4,551,810 issued to Levine teaches CAD-CAM design of building conduit and duct networks.

"Reconstruction of 3D Virtual Buildings for 2D Architectural Floor Plans", C. So, ACM 1-58113-019-8/98/0011, ACM November 1998 teaches 2D and 3D structural simulation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Ferris whose telephone number is 703-305-9670 and whose normal working hours are 8:30am to 5:00pm Monday to Friday.

Any inquiry of a general nature relating to the status of this application should be directed to the group receptionist whose telephone number is 703-305-3900.

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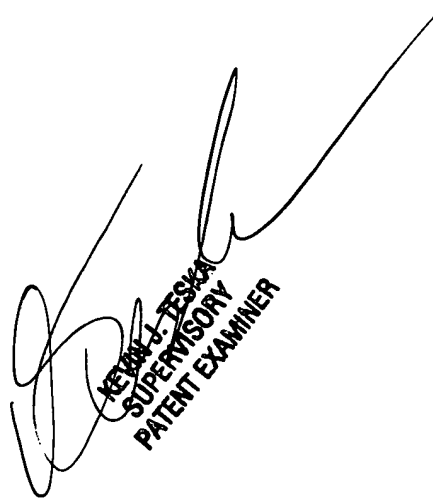
Art Unit: 2128

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May 24, 2004



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